REMARKS/ARGUMENTS

The Office Action mailed May 6, 2006 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

Claim Status

Claims 1-28 are now pending. No claims stand allowed.

The 35 U.S.C. §103 Rejection

Claims 1-5, 9-11, 22-28 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Harrington et al. (U.S. Pat. No. 6,163,579) in view of Haug (U.S. Pat. No. 4,881,244), among which claims 1, 5, 22, and 24 are independent claims. This rejection is respectfully traversed.

According to M.P.E.P. §2143,

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure.

Furthermore, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Claim 1 defines a transformer for coupling signals between a transceiver and a transmission line, said transceiver including a driver circuit for supplying a transmit signal to said transformer and a receiver circuit for receiving a receive signal from said transformer. The claimed transformer comprises (a) a first port adapted to being coupled to the transmission line, (b) a second port adapted to being coupled to the driver circuit, (c) a third port adapted to being coupled to the receiver circuit, (d) a first winding part having a turns ratio of 1: n, where n >1, for coupling the transmit signal from said second port to said first port, and (e) a second winding part having a turns ratio of 1: m, where m < n, for coupling the receive signal from said first port to said third port, as recited in claim 1.

In the Office Action, the Examiner contends that the elements of the presently claimed invention are disclosed in Harrington except that Harrington does not teach a first port adapted to being coupled to the transmission line, a second port adapted to being coupled to the driver circuit, a third port adapted to being coupled to the receiver circuit, a first winding part having a turns ratio of 1: n, where n >1, and a second winding part having a turn ratio of 1: m, where m < n. The Examiner further contends that Haug teaches such missing features, and that it would be obvious to one of ordinary skill in the art at the time of the invention to incorporate Haug into Harrington for a purpose of reducing the power consumption in a transformer used in telecommunication system.

The Examiner specifically alleges that, in FIG. 2 of Haug, two ends **a3-e3** of a secondary winding *2n*, two ends **a1-e1** of the first primary winding half *n*, and two ends **a2-**

e2 of the second primary winding half *n* (see column 4, lines 19-33 of Hang) teach the first port, the second port, and the third port of the claimed invention, respectively. The Examiner also alleges that the first primary winding half (**a1-e1**) and the secondary winding (**a3-e3**) of Haug correspond to the first winding part of the claimed invention, and the second primary winding half (**a2-e2**) and the secondary winding (**a3-e3**) of Haug correspond to the second winding part. In addition, the Examiner alleges that Hang also teaches the specific turns ratios of the claimed invention "1 : n, where n>1, if n = 2 then first winding part's ratio is n : 2n = 1 : 2, second winding part's ratio is 1 : 2n, where m = 2n then 2n : 2n = 1 : 1."

The Applicants respectfully disagree for the reasons set forth below.

First, Haug's transmission-reception equipment **SE** has bus transmitters **S11**, **S12**, **S21** and **S22**, and a bus receiver **E** (FIG, 2, and column 4, lines 14-13 thereof). As shown in FIG.2 of Haug, the alleged second port **a1-e1** is coupled to the first pair of the bus transmitters **S11** and **S12**, and the alleged third port **a2-e2** is coupled to the second pair of the bus transmitters **S21** and **S22**. That is, the alleged second and third ports of Haug are both coupled to the transmitters, i.e., the driver circuits. Thus, the both ports of Haug correspond to the claimed second port, and there is no third port coupled to the receiver circuit **E** in Haug. Since the receiver **E** is coupled to **a1** and **e2** (see FIG. 2 of Haug), the circuit structure (topology) of Haug is exactly the same as that of the Prior Art shown in FIG. 1 of the present specification, except the driver circuit (transmitter) of Haug is

divided in half. Accordingly, Haug fails to teach the third port adapted to being coupled to the receiver circuit, as recited in claim 1.

Second, since Haug's alleged second winding part **a2-e2** is coupled to the transmitter (driver circuit) **S21** and **S22**, not the receiver circuit **E**, as discussed above, the alleged second winding part **a2-e2** of Haug is not the claimed second winding part for coupling the receive signal from the first port to the third port, as recited in claim 1.

In addition, regarding the number of turns of the windings, Haug clearly suggests that the primary winding is divided into identical halves **a1-e1** and **a2-e2**, each having *n* turns (total $2n = n + n$), and the secondary winding **a3-e3** has *2n* turns (column 4, lines 19-23 thereof). Accordingly, the alleged first winding part has the turns ratio of $n : 2n$, (i.e., 1 : 2) and the alleged second winding part also has the same turns ratio of $n : 2n$ (i.e., 1 : 2). Thus, Haug only allegedly suggests a specific case of $n = m = 2$, and fails to teach or suggest the turns ratio of 1 : m for the second winding part, where $m < n$, as recited in claim 1.

Therefore, Harrington, whether considered alone or combined with or modified by Haug, does not teach or suggest the third port adapted to being coupled to the receiver circuit, the first winding part having a turns ratio of 1: n, where $n > 1$, for coupling the transmit signal from the second port to the first port, and the second winding part having a turns ratio of 1: m, where $m < n$, for coupling the receive signal from the first port to the third port, as recited in claim 1.

Claims 5, 22 and 22 also include, among others, substantially the same distinctive features as claim 1.

Accordingly, it is respectfully requested that the rejection of claims based on Harrington and Haug be withdrawn. In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Dependent Claims

Claims 2-4 depend from claim 1, claims 6-21 depend from claim 5, claim 23 depends from claim 22, and claims 25-28 depend from claim 24, and thus include the limitations of the corresponding independent claims. The argument set forth above is equally applicable here. The base claims being allowable, the dependent claims must also be allowable at least for the same reasons.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Conclusion

It is believed that this Amendment places the above-identified patent application into condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 12-2252 (LSI Logic Corporation).

Respectfully submitted,
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Limited Recognition under 37 CFR §10.9(b)

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